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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/733,016
Filing Date: December 10, 2003
Appellant(s): LIN ET AL.

Kirk D. Williams
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed November 4, 2008 appealing from the Office action mailed February 6, 2008.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

The following are the related appeals, interferences, and judicial proceedings known to the examiner which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

US Patent Application Publication No. 2004/0132451 A1	Butehorn et. al	7-2004
US 6,938,095 B2	Basturk et al.	8-2005

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Butehorn et. al and Basturk et al.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Butehorn et al (US Patent Application No. 2004/0132451 A1) in view of Basturk et al (US Patent 6,938,095 B2).

As per claim 1, Butehorn discloses a method comprising:

receiving a set of addresses from a client indicating route updates of interest to the client and a set of types of routing changes that are of interest (as receives routing information from one of the terminals, wherein the routing information specifies reachability of a host that is within a data network served by the one terminal) (Fig. 6, parg. 0014, 83, 85, 93);

maintaining one or more data structures including information corresponding to the set of addresses and the set of types of routing changes that are of interest (as the route server modifies a database storing routes reachable over the satellite network based on the routing information, i.e., route table) (parg. 0013);

receiving a particular route update (as receiving an update from a route client for a delete route) (parg. 0093); and

notifying the client of the particular route update in response to identifying the particular route update corresponds to both at least one address in the set of addresses and at least one routing attribute in the set of types of routing changes that are of interest (as message is transmitted to the terminals based on the modified route table for updating of respective route table of the terminals) (parg. 0014).

Butehorn does not explicitly teach distributing routing information within a router, wherein the client is within the router. However, Basturk discloses distributing routing information within a router (Fig. 1B, col. 9, lines 7-13, exchange of route data within a distributed scalable router), wherein the client is within the router (Fig. 1B, col. 9, lines 10-17, 26-29, as line cards, control cards, fabric processors (i.e., clients) are distributed

within the router (Fig. 1B, element 10). Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to combine the teachings of the cited references to implement the step for distributing routing information within a router, wherein the client is within the router as taught by Basturk because it would enable reduction of outbound packet buffering and would allow for the frequency of updates (i.e., entries in a routing table) to adjust the speed at which they can be processed on the receiver end, as suggested by Basturk (col. 3, lines 58-61).

As per claim 2, Butehorn teaches wherein said at least one routing attribute includes a change in an interface for reaching an address in the set of addresses (parg. 0040, last 4 lines).

As per claim 3, Butehorn teaches wherein said notifying the client of the particular route update includes notifying the client of the address (parg. 0057).

As per claim 4, Butehorn teaches wherein said at least one routing attribute includes a change in a path from the router to an address in the set of addresses (parg. 0049, last 6 lines).

As per claim 5, Butehorn teaches wherein the address is directly reachable from the router (parg. 0040, last 3 lines).

As per claim 6, Butehorn teaches wherein said at least one routing attribute includes a change in whether an address in the set of addresses is directly reachable or is not directly reachable (parg. 0066-0067, 0090).

As per claim 7, Butehorn teaches wherein said at least one routing attribute includes a change in a distance to reach an address in the set of addresses (parg. 0043).

As per claim 8, Butehorn teaches wherein said at least one routing attribute includes a change in a cost metric to reach an address in the set of addresses (parg. 0070).

As per claim 9, Butehorn discloses a method performed within a device for distributing routing information within the device, the method comprising:

receiving a first set of addresses from a first client indicating route updates of interest to the first client and a first set of types of routing changes that are of interest to the first client (as receives routing information from one of the terminals, wherein the routing information specifies reachability of a host that is within a data network served by the one terminal parg. 0014, and 0057, satellite context identifier which uniquely identifies the customer for a region which is equivalent to a first or a second set of addresses);

receiving a second set of addresses from a second client indicating route updates of interest to the second client and a second set of types of routing changes that are of interest to the second client (as receives routing information from one of the terminals, wherein the routing information specifies reachability of a host that is within a data network served by the one terminal) (parg. 0014) and (satellite context identifier which uniquely identifies the customer for a region (parg. 0057) which is equivalent to a first or a second set of addresses);

maintaining one or more data structures including information corresponding to the first and the second sets of addresses and the first and the second sets of types of routing changes that are of interest (as the route server modifies a database storing routes reachable over the satellite network based on the routing information, i.e., route table) (parg. 0013) and (parg. 0063 that a network operation center (hereinafter "NOC") provides an address server, which contains a database of all the satellite MAC addresses assigned to all customer networks supported by satellite for each satellite in a given region);

receiving a particular route update (as receiving an update from a route client for a delete route) (parg. 0093) and (parg. 0110, "Route Change Update);

performing one or more lookup operations on said one or more data structures to identify a result corresponding to the particular route update (as table lookups or using queries address server to the NOC, parg. 0054), the result identifying the first client but not the second client, and the particular route update corresponding to a particular type of routing change identified in the first set of types of routing changes that are of interest (as a route server disseminates the collects routes to the terminals for updating of their respective route tables according to the Satellite Context Identifier, which is uniquely identifies the customer for a region) (abstract, last 6 lines) and

notifying the first client but not the second client of the particular route update in response to the result identifying the first client but not the second client (parg. 0063 that a network operation center (hereinafter "NOC") provides an address server, which contains a database of all the satellite MAC addresses assigned to all customer networks supported by

satellite for each satellite in a given region, parg. 0057, wherein Satellite Context Identifier which uniquely identifies the customer for a region); and

the particular route update corresponds to a particular type of routing change identified in the first set of types of routing changes that are of interest (as message is transmitted to the terminals based on the modified route table for updating of respective route table of the terminals) (parg. 0014, 0012).

Butehorn does not explicitly teach distributing routing information within a device, wherein the first client and the second client are within the device. However, Basturk discloses distributing routing information within a device (Fig. 1B, col. 9, lines 7-13, exchange of route data within a distributed scalable router or distributed processor router), wherein the first client (Fig. 1B, sheft 20A includes a plurality of line cards) and the second client (Fig. 1B, sheft 20N includes a plurality of line cards) are within the device (Fig. 1B, col. 15, lines 60-67, col. 9, lines 10-17, 26-29, as line cards, control cards, fabric processors (i.e., clients) are distributed within the router (Fig. 1B, element 10). Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to combine the teachings of the cited references to implement the step for distributing routing information within a device, wherein the first client and the second client are within the device as taught by Basturk because it would enable reduction of outbound packet buffering and would allow for the frequency of updates (i.e., entries in a routing table) to adjust the speed at which they can be processed on the receiver end, as suggested by Basturk (col. 3, lines 58-61).

As per claim 10, Butehorn teaches wherein said one or more data structures maintains a single set of types of routing changes that are of interest to the first and the second clients based on the first and the second sets of types of routing changes that are of interest (parg. 0188).

As per claim 11, Butehorn teaches wherein said information maintained by said one or more data structures identifies different states of interest by clients, wherein said different states of interest include: whether the first client, the second client, both the first and second clients, and neither the first or second client are interested in a particular type of routing change (parg. 0189, i.e., route change update message and format of a route change update entry, wherein route change update messages also includes satellite context identifier).

As per claim 12, Butehorn teaches wherein a single indication of said different states of interest by clients is maintained for all of the addresses in the first and second sets of addresses (parg. 0105, 0125).

As per claim 13, Butehorn teaches wherein an indication of said different states of interest by clients is maintained for each address of said first and second sets of addresses (parg. 0105, 0125).

As per claim 14, Butehorn discloses a method performed within a device for distributing routing information within the device, the method comprising:

maintaining a data structure of route dependencies (Fig. 8A, i.e., next hub network address) including routes of interest to one or more clients (as Satellite Context Identifier, which is uniquely identifies the customer for a region) (Fig. 8A, parg 0057);

receiving a routing update identifying a particular route (as receiving an update from a route client for a delete route) (parg. 0093) and (parg. 0110, "Route Change Update);

identifying that no client of said one or more clients has subscribed to receive an update corresponding to the particular route; identifying a second particular route dependent on the particular route; identifying a particular client of said one or more clients has subscribed to receive an update corresponding to the second particular route (as IRSRP redirect routing provides point-to-point fashion to another ST port the proper route) (parg. 0086); and

notifying the particular client of the update to the particular route in response to said identifying the particular client has subscribed to receive an update corresponding to the second particular route (as IRSP redirect routing message within an ST port is defined as an ISRP redirect client) (parg. 0086).

Butehorn does not explicitly teach distributing routing information within a device, wherein said one or more clients are within the device. However, Basturk discloses distributing routing information within a device (Fig. 1B, col. 9, lines 7-13, exchange of route data within a distributed scalable router, distributed processor router), wherein said one or more clients are within the device (Fig. 1B, col. 9, lines 10-17, 26-29, as line cards, control cards, fabric processors (i.e., clients) are distributed within the router (Fig. 1B, element 10). Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to combine the teachings of the cited references to implement the step for distributing routing information within a device, wherein said one or more clients are within the device as taught by Basturk because it would enable

reduction of outbound packet buffering and would allow for the frequency of updates (i.e., entries in a routing table) to adjust the speed at which they can be processed on the receiver end, as suggested by Basturk (col. 3, lines 58-61).

As per claim 15, Butehorn teaches identifying a change corresponding to the second particular route matches a types of routing changes that are of interest to the particular client; and wherein said notify the particular client is performed in response to said identifying the particular client has subscribed to receive an update corresponding to the second particular route and said identifying the change corresponding to the second particular route matches a types of routing changes that are of interest to the particular client (parg. 0070, 0072).

Claims 16, 17 are rejected under the same rationale as state in independent claim 1 arguments.

Claims 18, 20 and 22 are rejected under the same rationale as state in independent claim 14 arguments.

Claims 19, 21, and 23 have the same limitations as claim 15, therefore, they are rejected under the same subject matter.

(10) Response to Argument

Examiner's Note: claim limitation "client is within the router" (as recited in claims 1 and 18); "the first client and the second client are within the device" (as recited in claims 9); "clients are within the device" (as recited in claims 14, 17 and 20); "the

client is within the apparatus" (as recited in claims 16 and 22). Based on Appellant's remarks filed on September 7, 2006, page 11, 3rd paragraph that "distributing routing information in a single device (i.e., the clients are within the device) - such as described throughout the specification, including, for example, page 10, line 8 (routing information is distributed within a router or other device". Further, Appellant's remarks filed on March 21, 2007, 3rd paragraph, last 3 lines that "There are multiple different processes, protocols, **linecards,** etc. (i.e., example of potential **"clients"**) within a single device/router. Accordingly, the recited limitation **"client"** being equated as **"client (linecard) is within a router".**

1.) The modification of Butehorn et al. with Basturk et al provide teaching "distributing routing information within a router, wherein the client is within the router (Appellant's brief page 13, last paragraph, page 14, first paragraph).

Applicants allege that Basturk teachings is *non-sequitur* to the proposed modification of Butehorm for distributing routing information within a router, wherein the client is within the router because the Office fails to articulate a reasoning with a rational underpinning to support the legal conclusion of obviousness. The examiner respectfully disagrees with Appellant's allegations. In response to Appellants' arguments that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally

available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). It is noted that Butehorn discloses “a router” at paragraph [0049]. However, Butehorn is silent that "the client is within the router". Appellants acknowledge that Basturk teaches "client is within the router (Figs 1A-1B). In this case, Butehorn is directed to a method for a routing information change update among route clients and Basturk is directed to a method for providing rout changes to a set of nodes and routers having interest in the changes. Because the two references are concerned with the solution to problem of routing change update information among nodes and routers, there is an implicit motivation to combine these references. In other words, the ordinary skilled artisan, during his/her quest for a solution to the cited problem, would look to the cited references at the time the invention was made. Consequently, the ordinary skilled artisan, would have been motivated to combine the cited references since Basturk’s teaching distributing routing information within a router would enable reduction of outbound packet buffering and would allow for the frequency of updates (i.e., entries in a routing table) to adjust the speed at which they can be processed on the receiver end, as suggested by Basturk (col. 3, lines 58-61).

2.) Butehorn teaches a set of types of routing changes of interest is notified to the client that interests in the types of routing changes (Appellant's brief, page 16, last paragraph, page 17, first paragraph).

Appellants allege that Butehorm fails to teach or suggests a type of routing changes of interest to the client; nor teaches the discriminatory notification based

thereon for routing changes because Butehorn teaches that the rout server collects all the updated and multicasts them to all the route clients, whether it is of interest to client or not. In response to Appellant's allegations, the examiner respectfully disagrees. Butehorn discloses that "the ISRP route client also maintains a collection of learned routes" (para. [0110, lines 16-17). Butehorn further teaches that "the ISRP route client maintains a number of timers" (para. [0119]). Let's put in this way, when a route client maintains a collections of learned routes and timers to track the status Route Change Update, the client already wants to be notified route changes that those types of routing changes are of interest to the client. Second, Butehorn also teaches "a type of routing changes" as equivalent to "deleted routes" as disclosed at paragraphs [0093] and Fig. 6, for "route change update" (i.e., deleted routes).

With regards to claims 14 and 18, Appellants make a general statement that the cited references fail to teach the limitation "subscription by the client" nor teaches "notification based thereon for routing changes". In response, since these limitations have recited similar claimed invention language as recited in claim 1. Patentability is therefore urged to be based upon the same analysis previously set forth with respect to the rejection of claim 1, the examiner selects independent claims 14 and 18 as the representative claim for this rejection.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

(12) Evidence Appendix

None.

Conclusion

The combination of the cited references provide a reasoning with a rational underpinning to support the legal conclusion of obviousness for distributing routing information within a router, wherein the client is within the router. Butehorn teaches notifying client the set of types of routing changes that are of interest to the client. In light of the forgoing arguments, the examiner respectfully requests the honorable Board of Appeals and Interferences to sustain the rejection.

Respectfully submitted,

/DEBBIE M LE/

Primary Examiner, Art Unit 2168

January 13, 2009

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